

REMARKS

Claims 9 - 11, 13 - 17, and 21 are pending. Claim 18 has been withdrawn.

FINALITY

Applicant respectfully requests reconsideration and withdrawal of finality due to new art being cited by the examiner.

35 U.S.C. §103

Claims 9, 13-16, and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over either *Wagner* or *Ostrobrod* (with respect to Claims 9, 13 - 16) in view of *Knots*, *Ascherin*, or *Krammerer*.

Applicant respectfully traverses this rejection.

Wagner 4,090,584 discloses a single piece safety brake having no moving parts for attachment between a safety line secured to a structure and a safety belt worn by an aerial workman to prevent falls. The brake comprises a hollow helical guide member with an arcuate axis adapted to permit the safety line to be passed therethrough. A serrated opening having inwardly projecting teeth is provided for exerting a drag on the line.

The Background of *Wagner* discusses safety devices for preventing falls. The safety device can comprise a safety line and a brake. However, no discussion of type of brake or other detail of structure is present.

Ostrobrod 5,924,522 discloses a cable grab safety device which releasably attaches a workman's safety belt or harness lanyard to a vertically extending safety steel cable or the like. The device includes a primary frame assembly, a secondary frame assembly, a brake mechanism carried by the secondary frame assembly, an elongated bent pin and a separate locking pin. The primary frame assembly is constructed of an elongated U-shaped bracket having a pair of spaced apart parallel side plates which is adapted to fit around a cable. The secondary frame assembly also is comprised of a pair of side plates adapted to fit within the U-shaped bracket after the cable is inserted. The brake mechanism is in the form of a pulley mounted in an elongated slot so as to be movable

toward or away from the cable and a level adapted to be attached to a worker's lanyard for moving the pulley so as to engage the cable in event of a fall. The bent pin is connected between the primary and secondary frame assemblies which allows for limited pivotal and axial movement between them to allow the cable to be inserted into the U-shaped bracket. The locking pin passes through aligned openings in the primary and secondary frame members to secure them together. The cable grab works as a brake when a workman falls by having the lever move the pulley wheel rearwardly against the cable. The device's components are specifically designed to accommodate a particular size cable.

Column 1, lines 19 - 32 of *Ostrobrod* discloses the following:

"Typical rope or cable grabs are used in conjunction with a safety belt or harness which is fastened about the worker. A lanyard is secured to the safety belt or harness and the free end thereof is secured to the rope or cable grab. The lanyard is relative[ly] short but is of sufficient length to allow the worker some freedom of movement in horizontal directions. An ideal rope or cable grab should move freely up and down the rope or cable as the worker slowly moves up or down. However, in the event that the worker loses his balance or otherwise is caused to fall, the lanyard causes the rope or cable grab to grip the rope or cable. This breaks the fall by gripping the rope or cable which first slows the worker and eventually stops the fall within several feet."

No discussion of type of brake or other detail of structure is present.

Knots is a webpage of various dates showing a purcell prusik system and a prusik hitch from a basic knot booklet for introductory climbing. It discloses how to use the system to ascend a rope.

Ascherin et al. 6,059,266 disclose a recovery device particularly useful in confined space and remote rescues. The device includes a base plate, a winch coupled to the base plate, and an anchoring plate coupled to the base plate to detachably couple the base plate to an object that will support the recovery. The disclosure shows a tripod with a pulley attached to its apex. The pulley 20 can be a Prussick-minding pulley. The system in Figs. 1a and 1b further includes a second cord 90 tied at one end in the form of a

Prussick knot. The Prussick knot is connected to cord 50 (wrapped around a winch) as the cord extends from a guide roller assembly 60 towards pulley 20. The other end of the second cord 90 is tied or coupled to the guide roller assembly 60, for example, by a carabiner. The Prussick knot 90 provides a safety device to keep a load from falling if there is a malfunction of a catastrophic failure of the winch (or of any part of the recovery device). The Prussick knot serves to grip or clamp down on cord 50 in the event of a malfunction on the winch side of the pulley 20. The knot system also allows cord 50 to be exchanged under load conditions when the direction of the cord 50 is reversed. The cord 50 of the recovery device is always under load when used to raise or lower.

Krammerer 4,667,772 discloses a mountaineering self rescue, no moving part, ascender. The ascender consists of a U-shaped housing, whose vertical sides extend horizontally from a vertical curved back. The interior of the curved back is serrated to increase friction and is placed to partially surround a belayed climbing or safety rope, defining a travel path for this rope. The oppositely spaced apart vertical sides, each have a mirror image longitudinal bias slot. Carabiners, with attached sling ropes, are snapped into the bias slots from the ascender. As the climber's weight is transferred from a sling rope to a carabiner its downward travel in the bias slots place the carabiner into locking frictional contact with the safety rope. A second duplicate ascender is placed above and moved upwardly on the safety rope by the climber.

The Background of *Kammerer* discusses use of a prusik line to ascend a crevasse when a climber has fallen. The disadvantages of a prusik are stated to be the inefficiency of the system for use in the *Kammerer* context.

Claim 9 is : A safety system for preventing injury from a fall, comprising:
a safety harness for engaging a wearer;
a standing line for attachment to a support structure;
a sliding loop comprising a knotted length of rope slidable along at least a portion of the length of said standing line, wherein said sliding loop is freely movable along said standing line when not loaded, but resists movement relative to said standing line when under load; and
coupling means for attaching said sliding loop to said safety harness.

Wagner and *Ostrobrod* disclose a generic brake or grab with a safety line but have no teaching, suggestion or motivation as to what type of brake or grab should be used or how the brake or grab should be configured with a safety line or belt. These references disclose their own designs for a brake or grab so do not motivate one of ordinary skill to look elsewhere for a replacement brake or grab for those disclosed. The references are required to suggest the desirability of the claimed invention and that suggestion is missing within this combination of references.

Knots, *Ascherin*, or *Krammerer* disclose existence of the prusik knot or hitch but the present claims are not claiming a prusik knot or hitch. These three references do not point to replacement of any rope grabs or brakes with the prusik knot or hitch nor any advantages that would motivate one of ordinary skill to make such a replacement. In *Knots* and *Kammerer* the prusik knot is not used as a grab or brake, but instead is used as a climbing device or as part of a climbing device. There is no motivation to replace a climbing device with a rope or cable grab or brake as this would perform an entirely different function from climbing. Also, the knot is used by itself with a line, no safety harness is used in these references.

The prusik of *Ascherin* cannot “resist[] movement relative to said standing line when under load” as recited in the present claims otherwise cord 50 would not be able to move under load as it would be constrained by the knot. Cord 50 needs to move while under load so that the load can be raised or lowered. Also, the prusik knot of *Ascherin* is not a sliding loop, instead it is connected to the device (65) so that it stays in one place along the cord 50.

Finding individual elements recited in the ~~in~~ various references is insufficient to make a *prima facie* case of obviousness. The combination of the elements must be present, suggested, or motivated. Thus, the claimed invention must be considered in its entirety as well as the references being considered in their entireties. MPEP 2141.02.

These knots could be combined with the generic disclosure of the *Wagner* and *Ostrobrod* Backgrounds (generic brake or grab replaced by a prusik knot) does not indicate that one of ordinary skill would find a suggestion or motivation to do so. The fact that references can be combined or modified is not sufficient to establish *prima facie*

obviousness. MPEP 2143.01. This is not a substitution of equivalents known for the same purpose as the disclosures do not teach a prusik hitch as being a brake or a grab for a safety harness. The examiner's allegation of equivalency is not recognized in the recited references.

For these reasons, Claim 9 is not rendered obvious by the examiner's combination of references. Claims 13 - 16 depend from Claim 9, for the reasons discussed for Claim 9, these claims are also not rendered obvious by the examiner's combination.

Claim 13 is: The safety system of Claim 9, wherein said knotted length of rope has a smaller diameter than said standing line. The diameter of the knotted rope is not disclosed, suggested or motivated by recited combination or the individual references. Also, no relative diameters of the standing line and knotted rope are disclosed, suggested or motivated.

Claim 21 is similar to Claim 9. For the reasons discussed for Claim 9, these claims are also not rendered obvious by the examiner's combination.

Claims 10 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over either *Wagner* or *Ostrobrod* in view of *Knots*, *Ascherin*, or *Krammerer*, as applied to Claim 9 above, and further in view of *Van Patten*.

Applicant respectfully traverses this rejection.

Wagner, *Ostrobrod*, *Knots*, *Ascherin*, and *Krammerer* are discussed above.

Van Patten 4,493,391 discloses a self-contained safety device for self-lowering a person comprising an elongated high strength safety webbing to support a person and a reel for releasably housing said webbing. The device comprises a generally figure 8 shaped member having two aligned apertures, a seat comprising a non-slip buckle means and two elongated seat webbings to form a big hole and one-half of waste hole. A friction knot is formed by passing the safety webbing through one aperture of the figure 8 member, said friction knot being manipulatable to extend the webbing at a controlled rate, and means at the end of the safety webbing for anchoring the web during lowering of the person.

Claims 10 and 11 are:

10. The safety system of Claim 9, wherein said standing line comprises a looped portion.

11. The safety system of Claim 9, wherein said standing line comprises a clip.

The reasons why Claim 9 is not rendered obvious by the combination of *Wagner* or *Ostrobrod* in view of *Knots*, *Ascherin*, or *Krammerer* are discussed above. Claims 10 and 11 depend from Claim 9 and for these same reasons, these claims are not rendered obvious. *Van Patten* does not remedy this nonobviousness of the claims as a whole by providing an additional individual element.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over either *Wagner* or *Ostrobrod* in view of *Knots*, *Ascherin*, or *Krammerer*, as applied to Claim 9 above, and further in view of *Crawford*.

Applicant respectfully traverses this rejection.

Wagner, *Ostrobrod*, *Knots*, *Ascherin*, and *Krammerer* are discussed above.

Crawford 5,511,291 discloses a rappelling descender having an elongated, substantially hexagonal ring, a capstan attached to a first long side of the ring, and a hand grippable handle attached to a second long side of the ring, opposite the capstan. The handle is at least substantially one palm width in length. A first ear extends from one side of the capstan, and a second ear extends from an opposite side of the capstan as the first ear, both ears extend transversely to the capstan.

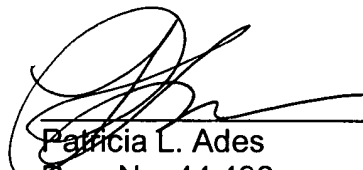
Crawford discloses a "belt or a harness" but does not specifically disclose a multi-point body harness. Fig. 3 appears to show a sit harness or belt at 34. The specification refers to 34 as "belt or harness" or "rappeller's belt."

Claim 17 is: The safety system of Claim 9, wherein said safety harness comprises a multi-point body harness.

The reasons why Claim 9 is not rendered obvious by the combination of *Wagner* or *Ostrobrod* in view of *Knots*, *Ascherin*, or *Krammerer* are discussed above. Claim 17 depends from Claim 9 and for these same reasons, this claim is not rendered obvious. If *Crawford* discloses a "multi-point body harness," it does not remedy the nonobviousness of the claims as a whole by providing an additional individual element.

In view of the response submitted herein, it is believed that all claims are now allowable, and that the application has been placed in full condition for issue. Accordingly, Applicant earnestly solicits early and favorable action. Should there be any further questions or reservations, the Examiner is urged to telephone Applicant's undersigned attorney at 770.984.2300.

Respectfully submitted,



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